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AUTHOR Gans, Thomas G.
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ABSTRACT

The College of Education of the Cleveland State University opened its first graduate program in 1968. The purpose of the study reported here is to provide information for reflection about the college's past performance and for planning new directions in its graduate programs. The study uses information from college and university records, organized so that it shows what has happened in the college's graduate programs and to the students who enrolled in them. The findings are organized around four topics: (a) patterns of admissions; (b) student characteristics; (c) student performance and progress; and (d) predicting student performance. It was found that the College of Education, over the eight years reviewed here, admitted a very large, diverse group of students to graduate study. It graduated, or is likely to graduate, only a small portion of those students. The reasons for most of the student attrition remain unknown; this study has only shown the magnitude of attrition and that the reasons for it are not academic. (MM)

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Students' Performance in M. Ed. Programs at The Cleveland State University, 1968-1975

Thomas G. Gans

The Cleveland State University

U S DEPARTMENT OF HEALTH, EDUCATION & WELFARE
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Students' Performance in M. Ed. Programs
at The Cleveland State University, 1968-1975

Shortly after the College of Education at The Cleveland State University opened its first graduate degree programs in 1968, its faculty was nearly overwhelmed by the sheer numbers of students who sought admission. At the time, the full-time faculty was small, fewer than twenty, and the number of students and the climate of deference to students demands left no time for reflection and precious little time for planning. Now there is time, both for careful reflection about the character and direction of the college's graduate programs and for planning new directions. When the college and university were both new, hastily conceived programs and stopgap admissions policies were acceptable--indeed, they were necessary to meet the needs and demands of clientele. Now they are not.

The purpose of this study is to provide the information necessary for mature reflection about the college's past performance and for planning its new directions in graduate programs. The study uses information from college and university records, organized so that it shows--so far as it is possible--what has happened in the college's graduate programs and to the students who enrolled in them. The findings are organized around four topics: (a) patterns of admissions, (b) students' characteristics, (c) students' performance and progress, and (d) predicting students' performance.

Method

Because this study uses data that are readily available in university records, it offers no methodological novelty in the type of information or in the method of obtaining it. What is original about the study is the

attempt to make some sense out of the body of information that is routinely collected in the administration of degree programs and to use it critically for evaluating those programs.

The registrar's computer records were used to compile a tape that contained the following information for all active or inactive graduate students in education: (a) name, (b) social security number, (c) birthdate, (d) race, (e) credits earned, (f) credits attempted, (g) grade average, (h) number of incomplete grades pending, (i) entrance status, (j) enrollment date, and (k) graduation date (when applicable). From students' files kept by the College of Education, the following information was added: (a) whether or not the student had earned a previous graduate degree, (b) Miller Analogies Test score, (c) Graduate Record Examination verbal and quantitative aptitude scores, (d) undergraduate grade average, (e) program choice, and (f) sex. The registrar's records provided initial data on 3,640 students. The process of searching College of Education records turned up another 926 students, the data on whom had somehow been expunged from the registrar's computer tape. (Their data still exist in the written records.) Thus, the population studied consists of 4,566 persons who enrolled for graduate study in the College of Education between the opening of the first program and the end of the 1974-75 academic year.

The data were processed using the Statistical Package for the Social Sciences (Nie, Hull, Jenkins, Steinbrenner, & Bent, 1975). In the analyses, two new variables were computed, the student's age at entry into the program and the number of quarters elapsed between his entry and graduation or December, 1975, whichever was later. Then, analyses were done, most of

which are simple frequency distributions of the variables for various sub-populations or crosstabulations of groups of variables. In addition, I attempted to develop predictors of academic success, using linear regression and discriminant analysis. Where appropriate, the discussions of the results include elaboration on the criteria and techniques used in analyses.

Results

Admissions Patterns

In admissions to graduate programs, the truth is a cliché. College of Education graduate admissions have grown by leaps and bounds. Figure 1 illustrates the growth of graduate admissions over the eight years of the programs' existence. The first leap in admissions came in 1969, an increase from 57 to 402 admissions. This increase marked the opening of the college's first general graduate degree programs, those in curriculum and instruction and in school administration. The programs existing before 1969 were a selective program for kindergarten and primary teachers and two "internship" programs contracted with the Cleveland Public Schools for uncertified teachers it had employed in elementary and junior high schools. The kindergarten/primary program was quickly eclipsed by the sheer numbers of students admitted to the program in elementary curriculum and instruction.

The next bound in enrollments came in 1971, and this increase also reflected the expansion of programs into fields for which there was great demand. In this case, the school counselor program attracted large numbers of students and soon surpassed both administration programs in size (See Figure 2.).

Insert Figures 1 & 2 about here

As Figure 1 indicates, the college's graduate admissions remained fairly steady, at about 700 to 750 new admissions per year, for the period following 1971. However, there is a third leap that is not apparent in the graph. The data for 1975 include admissions for only the first three quarters of the calendar year because the academic year ended in August, and the end of the academic year was used as the cut-off date for this study. If new admissions for the Fall Quarter, 1975, followed the past pattern of amounting to about 45% of the total for the rest of the year, then new admissions for 1975 would exceed 1,000. Again, this can be interpreted as reflecting college changes that were in tune with existing demands. In this instance, the introduction of the non-degree status for graduate students, with its considerably simplified admissions requirements, may account for much of the 1975 increase. This interpretation is corroborated by the data on categories of admissions given in Table 1 below.

The profiles of admissions to the several college programs show another aspect of the nature of demand for graduate programs. Figures 2 through 7 show these profiles, with the programs grouped by department and by size. The larger programs are graphed to show quarterly fluctuations in admissions; the smaller programs are graphed only to show annual totals. The admissions shown for 1967 antedate the college's programs; evidently three students transfered to the College of Education from programs that opened earlier.

Insert Figures 3 through 7 about here

One pattern that shows clearly in the graphs of admissions to individual programs is the time dependence of demand for some programs. It is clear that the numbers of new students for the programs in elementary and secondary school administration reached their peaks in 1971 and fell off sharply thereafter (Figure 2). The school counselor program, which obviously tapped an unmet need when it opened in 1971, reached its peak in new admissions in 1973. Its admissions, too, have fallen off noticeably. Similar, though less pronounced patterns appear in the profiles of the two curriculum and instruction programs and of the learning disabilities program. The latter program is quite new, and so there is not sufficient data for a clear trend in the profile. However, the Figure 3 data show a very sharp rise and a very sharp drop. Such a pattern would be consistent with the expectation one would have for students' interests fueled by federal funding for a limited set of new positions. Such interest develops quickly, as laws and appropriations are passed; and it wanes equally sharply, as the positions defined by categorical aid are filled.

In contrast to these very large programs, with their sharp rises and falls in enrollments, several college programs have shown much more modest enrollments, but also enrollments that show promise of stability, and even modest long-term growth. The programs in higher education (Figure 4), emerging adolesent education (Figure 5), reading (Figures 5 & 6), and business education (Figure 6) show fairly stable patterns of admissions.

The graphs understate growth in 1975 or indicate false drops in new admissions. This is the result of not including fall, 1975, admissions in the data for this study.

The contrast between the admissions patterns of large scale and small scale programs spotlights a major policy problem. Programs with high, but short lived demand may generate rapid growth, but the faculty and staff that the program growth brings must be sustained when the demand wanes. Alternatively, such programs can be staffed heavily with part-time faculty, a practice which usually draws censure from accrediting agencies. Modest programs do not generate such staffing problems--unless, of course, one mistakes the character of his program. It remains an interesting, unanswered question whether or not one could obtain stable admissions to a high demand program by "stretching out" the admissions through selection.

The patterns of admissions of students who don't want graduate degrees contrast sharply with those of the large scale programs, despite the similarity of the numbers involved. While the large scale programs show heavy new admissions in both summer and fall quarters (Figures 2 and 3), the admissions for workshops and non-degree studies, shown in Figure 7, have sharp peaks in summer quarters, followed by sharp drops in fall quarters. Moreover, there is a steady rise in the numbers of such students, with a curious two-year cycle between major peaks. The explosion of new non-degree admissions in the summer of 1975 probably does not signal a major shift in students' academic ambitions. Rather, it likely reflects simple acknowledgement of the limited purpose for study that a large proportion of graduate students in education have. Before the 1974-75 academic year, the admissions procedures

of the college required students who honestly had no degree ambitions to pretend that they did, just to be admitted to take classes. In fact, the categorization of these students for this study was done on the basis of the types and number of courses they completed rather than on the basis of their statements on the admissions applications. The idea that a large proportion of the college's students do not really want graduate degrees is supported by the data on amounts of work completed and progress rates that is presented below.

One last quantitative aspect of the college's admissions to graduate study that bears some examination is the pattern of admissions by categories defined by admissions requirements. These categories, defined by the regulations of the College of Graduate Studies, relate either to procedures or to purported qualifications for graduate study. The categories are: (a) regular graduate student, one "fully qualified" for graduate study; (b) special graduate student, one who does not meet admission criteria--chiefly that for a 2.60 undergraduate GPA--but who is admitted probationally; and (c) provisional graduate student, one who has not submitted all materials required for admission, but who is admitted for one quarter without them. Table 1 shows the numbers and percentages of students admitted to these categories since 1968. However, the data understate the admissions to special graduate and provisional graduate categories; when students admitted to these categories qualify for another category (e.g., a special graduate being admitted to degree candidacy or a provisional student submitting the materials necessary for admission to special graduate status), the registrar changes the students' admissions status. Thus, the numbers originally

admitted to special graduate or provisional graduate standing are larger--but unknown--than those shown in Table 1, and the numbers originally admitted to regular graduate status are correspondingly smaller.

Insert Table 1 about here

It is clear from Table 1, regardless of the changed classifications, that the provisional admission, which was created in 1973, has quickly become the dominant mode of entry to graduate study in the College of Education. This may be radically changed when data become available on admissions to the new non-degree status, which became effective in the fall of 1975. It is altogether possible that the non-degree status will effectively replace the provisional status, if those who were admitted to provisional status were so admitted because of their lack of interest in degrees. Since the basic difference between provisional admission and special or regular admission has only to do with the student's submission of transcripts and recommendations, it is probably accurate to say that students who are admitted provisionally aren't very interested in graduate degrees, let alone those who remain provisional students after three months.

Table 1 also shows an apparently declining proportion of students who fail to meet the criterion (2.60 undergraduate GPA) for regular graduate admission. If this is accurate--and not merely an indication of admissions to degree candidacy, it probably reflects the well-known inflation of undergraduate grades over the past ten years (Etzioni, 1975; Ferguson & Maxey, 1975; Davidson, 1975), rather than indicating increases in the academic abilities of students. To check on this question, I examined distributions

of the Miller Analogies Test (MAT) scores by year of admission and found no trend, upward or otherwise. The mean MAT scores for various years fluctuated within a few points of the overall mean of 43.

Characteristics of Students

Demography. The graduate students of the College of Education have been a diverse group, no matter what the basis for comparison. Breakdowns by sex and race of the student groups admitted to college programs are given in Tables 2 and 3. Since these data are compiled from records, they leave something to be desired. Unknown sex, difficult as it is to understand, is simply the result of students having left blanks on their admission applications and having names, like Marion, which are used for either sex. The racial data were obtained from voluntary questionnaires used by the registrar since 1972 to meet federal reporting requirements. The categories, which are those specified for reporting by the U.S. Department of Health, Education, and Welfare, are obviously suspect scientifically; and the return rate of the questionnaires is not impressive.

Insert Tables 2 & 3 about here

Since no college program has used selective admissions criteria at all, let alone criteria that might discriminate sexually or racially, the distribution of individuals to programs has been solely due to self-selection. With about 60% of the student group being women, only four programs have majorities of men. These are the two administration programs (predictably) and the two teaching internship programs. The predominance of men in the

latter programs was the result of the hiring policies of the Cleveland Public Schools for the temporary positions from which the students were drawn. If one can assume that those who did not respond to the registrar's race questionnaire have the same racial proportions as those who did (and that the responses were truthful), then the proporations of Black students in the college's programs vary between about 7% and 32%, with most programs having about 25% Black students, a small percentage of Oriental students, and the rest White. There are no apparent patterns of racial distributions in the various programs.

The distribution of students' ages at entry into their graduate programs is shown in Figure 8, and the average entry age for each of the college's programs is shown in Table 4. The most interesting thing about the distribution of students' ages is the very good approximation that it makes to a logarithmic curve. What may surprise some about this is the fairly high numbers of young (21 to 25 years) despite the average age of 32.2 years. Of much more interest for interpretive purposes are the differences among programs.

Insert Figure 8 and Table 4 about here

The two teaching internship programs, both now defunct, had far and away the youngest groups of students of all programs. As noted above, these students had been recruited to teach in Cleveland schools and were enrolled at Cleveland State University to pursue teaching certification at the graduate level. That the students were mostly men of draft age, at a time when draft

deferments were given to teachers, may explain the low completion rates for these programs that are noted below.

There are no really striking differences among programs in the average entry ages of students. Students in the supervision, learning disabilities, and emerging adolescent education programs average somewhat older than students in other programs, but only by two or three years. There is a marked difference in age between students in degree programs and those undecided about program or not seeking degrees; the average age of the latter groups is substantially greater than that of any other student group. These two groups also comprise a plurality of the graduate student body, almost a third of the total.

Academic ability. The distributions of students' undergraduate grade averages, Miller Analogies Test scores, and Graduate Record Examination scores, on the whole, are what one would expect for graduate students in education at a state university. The data do not deviate noticeably from national norms. The overall distributions of these variables are shown in Figures 9, 10, 11, and 12. Breakdowns of averages for each of the college's programs are shown in Table 5. One should note, however, that MAT or GRE scores are available for less than half of the students admitted to graduate standing in the college, despite college admissions policies requiring one test score or the other. Generalizations from these data require the assumption that those who took the tests were representative of all students.

Insert Figures 9 through 12 and Table 5 about here

The college mean and standard deviation on the MAT, 43.0 and 17.0, are comparable to those obtained from national norm groups. The mean and standard deviation for education majors in master's programs are 39.2 and 15.4, and those for school administration majors at schools granting doctoral degrees are 44.5 and 15.7. One should note that the latter norm group includes both doctoral candidates and master's degree candidates (Psychological Corporation, 1970, pp. 5-6), and one must also be cautious of comparisons because of probable "sample bias" in the data on Cleveland State's students.

The GRE, MAT, and undergraduate GPA data show parallel differences among the students in the several college programs. Students in supervision, learning disabilities, reading, and curriculum and instruction generally had higher scores on these criteria than did students in administration or business education. These differences, while meeting the criteria for statistical significance, are not large enough to yield clear interpretations of themselves. As is noted below, these differences are accompanied by differences in non-completion rates contrary to those one would expect from the predictor data (See Table 8 below.).

Students' Performance

The ultimate criteria for judging the worth of a school program are its success rates. There are several such rates that are regularly used: the proportion of entering students who finish programs, the grade performance of students in programs, and the job placement record of program graduates. The latter criterion, probably the most important, is beyond the scope of this study. However, from data in the college records, it was possible to

examine the two others and, to a lesser extent, the relationship between them.

Progress toward degrees. Table 6 shows the numbers of students admitted to each of the college's programs for at least three quarters, the numbers of students admitted to degree candidacy, the numbers of degrees granted, and the median numbers of quarters that graduates took to complete their degrees. The admissions prior to 1975 were used to give a realistic figure for comparing with the numbers admitted to degree candidacy, which requires the student to have completed 12 credits. The proportions of students admitted to candidacy are low, less than half overall; and, of course, the proportions of students graduating are even lower.

Insert Table 6 about here

These indications of low rates of completion are disturbing, but they can be countered by the argument that the short span of the college's existence would make them misleadingly high. To take this into account, I examined several other related indices: the average number of credits earned, the average progress rate (in credits per quarter), and the distribution of credits earned by individuals. The averages of credits earned and of progress rates are broken down by programs in Table 7. The distribution of credits earned for all of the college's students is shown in Figure 13.

Insert Table 7 and Figure 13 about here

As it turns out, the average numbers of credits earned are misleading because of the skewed distribution of credits earned. While the average number of credits earned for the college is something over 17, both the median and the mode of the distribution are below 9. Apparently, about half of the college's graduate students either don't intend to complete more than a course or two, or they quit or go elsewhere after completing less than 10 credits. Disturbing as this interpretation may be, it is supported by the data on progress rates in Table 7. There are only two programs in the college in which students on the average take at least one course per quarter; these are the higher education program and the program for teachers of emerging adolescents.

Following up on the problem highlighted by the progress rates for college programs, I computed non-completion rates for each program, using two years, three years, and four years after entry to the program as the bases for calculation. These non-completion rates are shown in Table 8. The two year rate is an actual non-completion rate for those who had been enrolled for at least two years by the end of 1975; the other two rates are estimated from progress rates. If anything, the estimated non-completion rates are overly optimistic, since new, one-time students will have high progress rates.

Insert Table 8 about here

The data are disturbing. Only two of the college's programs have expected drop-out rates of less than 50%, the emerging adolescent education

and the elementary administration programs. The programs in counselor education and curriculum and instruction can expect to lose 2/3 or more of the students that they enroll. In this connection, it is pertinent that the program for teachers of emerging adolescents is the college's most structured program in terms of course selection and sequence, and the curriculum and instruction programs are the least structured. Whether or not there is a direct relationship between program structure and students' commitment is arguable; these data support the contention that there is.

Students' grades. There is reason to question the sources of the apparent attrition of students in the college's graduate programs. Students' grades are usually assumed to be a major factor in attrition, through the vehicle of selection and retention practices. To examine this issue, it is necessary to look both at students' grade performance and at the selection/retention decisions that the college faculty has made at least partially on the basis of students' grades.

The distribution of students' grade averages is shown in Figure 14. Distributions are shown for three groups of students: the entire population of students, the students who have graduated from the college's programs, and the students who have been barred from further registration by the university registrar. The reasons for such action by the registrar are several; they include: failure of provisional graduate students to submit the materials required for admission as regular or special students, denial of degree candidacy (or failure to apply for it) to special graduate students who have completed at least 12 credits, dismissals of students by faculty action, and mandatory dismissals.

Insert Figure 14 about here

In view of the presumably major differences in these groups, one might expect their grade average distributions to differ markedly. Such is not the case. The grade average distributions for all students and for students barred by registrars action are virtually identical in shape, the difference between them being the height of the peaks around 3.0 and 4.0. The distrition of grade averages for program graduates differs from the other two in having a slightly lower mode (3.63 instead of 3.88) and in being truncated at 3.0 by university regulation. The lack of clear difference in the shapes of the grade distributions is accompanied by similar lack of difference in median grade averages of the three groups, which are 3.47, 3.55, and 3.40 for all students, graduates, and barred students respectively. Despite the overwhelming proportions of students in all categories who have received grade averages above 3.0, the proportion of students' grade averages below that level is overstated. Most of the grade averages of zero are the result of students leaving the university without bothering to drop courses or of students failing to make-up incomplete grades within the prescribed period. In these instances, the registrar records failing grades as a matter of routine procedure.

Insert Table 8 about here

From the foregoing discussion, one would not expect there to be differences among programs in students' grade averages, and indeed there are not.

The mean grade averages for students in the various programs are shown in Table 8. The only programs whose mean grade averages deviate from the college's norms are the two internship programs, both of which have been defunct for several years.

Insert Table 10 about here

Since the issue of the relationship between grades and attrition came into question, I examined the group of students who were discontinued by registrar's action for evidence of the working of active selection and retention policies. The results of this scrutiny are shown in Table 10. Because the college has not kept records of selection/retention decisions so that they could be summarized, it was necessary to infer the reasons for discontinuance. The students counted as having defaulted admissions all remained categorized as provisional students more than one quarter after their initial admission. Some of them, particularly those with GPA's less than 3.0, may have been academically dismissed; it is quite unlikely that many of the 502 provisional students with GPA's greater than 3.0 were discontinued for reasons other than simply not supplying admissions documents. The students who are listed as having had degree candidacy denied are special graduate students who have earned more than 12 credits. Again, those with GPA's less than 3.0 were probably denied candidacy. Of those whose GPA's are greater than 3.0, a few may have been denied candidacy under the "single C" rule (which states that a special graduate student who earns a C will not be admitted to degree candidacy), but most of these students

probably simply did not apply for candidacy. The few students who were clearly dismissed give evidence of the operation of selection and retention procedures on a small scale, but it is indicative of the actual policy operation that the vast majority (over 80%) of even those students barred from studies were probably cut off by their own disinterest in continuing.

All this rather clearly indicates that self-selection is the primary, and one might almost say the only factor in the loss or retention of students. Grades are relevant only in a very marginal number of cases. In the 1975-76 academic year, less than 2% of the over 5,000 graduate grades assigned were below B (Note 1). Such practice cannot form the base for an academic selection and retention policy that will have much effect.

Predicting Students' Success

The ultimate test for any admission criterion is how well it predicts the students' success. The most commonly used measure of students' success is the grade average (GPA), and a common problem with attempts to validate admissions criteria by predicting GPA is that not all students are admitted, truncating the range of the predictor scores. Since virtually all students who applied to the college were admitted, that problem is present in this study; but a companion problem is. As noted above, the GPA distribution is sufficiently truncated that it becomes questionable as the criterion for prediction studies, particularly in view of its marginal effect on attrition.

Be that as it may, I attempted to account for the variance of graduate grade averages by linear regression using four predictor variables: MAT scores, undergraduate GPA's, whether or not the student had earned another

graduate degree, and the student's age at admission. The results of that regression are shown in Tables 11 and 12. It is interesting that in spite of the very restricted variation of graduate GPA's, there is a fairly good overall correlation between the MAT and GPA. The correlation obtained here (+0.317) compares favorably with a number of those obtained in validity studies of the MAT (Psychological Corporation, 1970), particularly so in view of the size of this sample, which is more than twice as large as the largest cited in the MAT manual.

Insert Tables 11 & 12 about here

Following this finding, I calculated regressions separately for each of the college's programs, using both MAT and GRE scores in separate computations. The results are summarized in Tables 13 and 14. In these tables, the multiple correlation coefficient and the multiple $\underline{R}^2$, which estimates the proportion of GPA variance predicted, are given, together with the name of the best predictor variable. The highest multiple correlations are obtained with small samples (e.g., the reading programs), and the correlations for large groups are quite modest. There were no data for programs omitted.

Insert Tables 13 & 14 about here

However interesting the regressions on GPA may be from a methodological viewpoint, they are essentially moot because of the lack of importance of the GPA noted above. A much more relevant criterion for admissions standards would be their ability to predict completion of the program, or at least

adequate progress toward that goal. For this study, I defined adequate progress quite arbitrarily as completing work at a rate of four credits per quarter, the rate necessary to earn the degree in three years. Using program completion or "adequate" progress as the criterion of success, I attempted to construct a discriminant function to predict it. To do so, a subroutine of the SPSS package (Nye, et al., 1975) that maximizes the statistical criterion known as Rao's V was used. The results, shown in Table 15, were not impressive. The college's admissions criteria, age, and sex combined permit one to do just a little better (59.6%) at predicting success than he could do with a toss of a coin. Changing the success criterion to include a progress rate of three credits per quarter and a GPA of at least 3.0 only lowered the prediction effectiveness to 53.5%.

Insert Table 15 about here

Bad as the overall prediction of successful progress might be, there was considerable variation among programs when the same procedure was applied to them separately. The results of the separate discriminant analyses are summarized in Table 16. In these analyses, the success criterion was a progress rate of three or more credits per quarter and a grade average of at least 3.0. Despite the appearances from the figures on prediction effectiveness, only two of the discriminant functions, those for the school counselor program and the elementary curriculum and instruction program, yielded results that were statistically different from the results one could obtain by chance, i.e., by tossing a coin. However, the variables

that predicted success in the counselor education program were sex and enrollment age, not measures of past academic performance or ability. Only the elementary curriculum and instruction program had a clear relation between ultimate success in the program and one of the university's admission criteria.

What is clear from these prediction studies is that the traditional predictors of success in graduate school work moderately well for predicting variation in graduate grades, particularly so in view of the low variance of those grades; but they do not predict ultimate success. It would not be realistic to expect admissions criteria, such as undergraduate grades and test scores, to predict program completion with high precision; the most that is expected is that admissions criteria would enable reduction of the potential attrition. Only for the program in elementary curriculum and instruction would such a reduction of expected attrition be possible by use of admissions standards; and there, the reduction, while statistically significant, would be quite modest.

Discussion

The College of Education, over the eight years reviewed here, has admitted a very large, very diverse group of students to graduate study. It has graduated, or is likely to graduate, only a small portion of those students. It is disturbing that academic criteria have nothing to do with the vast majority of instances in which students have not completed work on degrees. In fact, the reasons for most of the student attrition remain unknown; this study has only shown the magnitude of attrition and that the reasons for it are not academic.

There can be no question that the college's academic standards are not a major factor in attrition. The median grade average the college's students earned in undergraduate work was 2.66; their median graduate grade average was 3.47, 8/10 of a point higher and certainly no direct discouragement. As Table 10 shows, grades are directly involved in less than 150 of the more than 3,300 cases of students who have neither graduated nor are making sufficient progress to do so. Grades and academic expectations may be indirectly involved in some attrition. Some students have told me of their disappointment at the ease with which they can earn A's and at the difficulty of distinguishing themselves in a climate where even modest effort receives high marks. How much this kind of discontent contributes to the college's attrition problem is not known, as are the host of other possible reasons that students have for leaving.

It is clear that the college must begin to find out why its graduate students leave. Aside from the self-serving reason--which I shall leave to others to explore fully--that their leaving represents a lot of lost revenue, there is even more loss in human terms. There are ambitions that were simply frustrated, ambitions and potential that were never crystalized, teaching skills that were not improved, and ideas that were not encountered.

If the College of Education is to mature, it must learn whom it serves and decide why. This means learning what students want and what they don't, which can only be done by asking them. It means examining, questioning, and changing its programs to meet the needs of students, the community, and the profession at large. If the college undertakes this difficult task of

self-examination, it may be able to retrieve some of the human loss that is buried in its programs' high attrition. If it does not, it will surely fail its urban mission for not knowing it. What is sad about such a prospect is that with all such institutional failures, the recognition will come so very slowly. No one will assign an F to put a merciful end to the agony.

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Table 1

Admissions Status of Students

by Year of Enrollment

Year	Regular Graduates[a]	(%)	Special Graduates	(%)	Provisional or Non-Degree[b]	(%)
1968	25	(44%)	32	(56%)	n.a.	
1969	64	(16%)	338	(84%)	n.a.	
1970	94	(23%)	318	(77%)	n.a.	
1971	300	(41%)	435	(59%)	n.a.	
1972	431	(54%)	359	(46%)	---	
1973	325	(46%)	273	(39%)	108	(15%)
1974	355	(47%)	193	(26%)	207	(27%)
1975	236	(33%)	160	(23%)	310	(44%)

[a] These figures include those whose status has been changed by their admission to degree candidacy. The actual number of students directly admitted as Regular Graduates, though lower than that shown, is not available.

[b] The provisional admission status was not used as such before the 1972-73 academic year. Prior to that, the College of Education used the Special Graduate category for both provisional and non-degree purposes.

Table 2

Graduate Admissions

by Program and Sex

Program	Sex					
	Male	(%)	Female	(%)	Unknown	(%)
Administration						
Elementary	148	(61%)	95	(39%)	---	
Secondary	310	(76%)	101	(24%)	---	
Business Education	24	(24%)	77	(76%)	---	
Higher Education	52	(39%)	81	(60%)	1	(1%)
School Counselor	192	(37%)	318	(63%)	---	
Supervision	24	(45%)	29	(55%)	---	
Curriculum & Instruction						
Elementary	120	(16%)	644	(84%)	2	(-%)
Secondary	171	(46%)	200	(54%)	---	
Emerging Adolescents	25	(42%)	34	(58%)	---	
Learning Disabilities	19	(11%)	151	(89%)	---	
Reading						
Elementary	6	(9%)	64	(91%)	---	
Secondary	6	(17%)	30	(83%)	---	
Physical Education[a]	3	---	2	---	---	
Liberal Arts Internship	33	(66%)	16	(34%)	---	
Math/Science Internship	94	(92%)	7	(7%)	1	(1%)
Undeclared	154	(32%)	261	(53%)	73	(15%)
Workshop or Non-Degree	440	(44%)	555	(56%)	---	
All Programs	1821	(40%)	2665	(58%)	80	(2%)

[a]The physical education program was approved in 1976. These students were originally undeclared, but are now clearly affiliated with the p.e. program.

Table 3

Graduate Admissions

by Program and Race[a]

Program	Race					
	Black	American Indian	Oriental	Hispanic	White	Unknown
Administration						
Elementary	26	2	2	0	84	129
Secondary	50	2	5	0	132	222
Business Education	12	1	1	0	25	62
Higher Education	11	2	4	0	47	70
School Counselor	55	4	6	0	172	272
Supervision	2	0	2	0	26	23
Curriculum & Instruction						
Elementary	77	3	10	1	207	468
Secondary	35	1	5	0	103	227
Emerging Adolescents	9	1	3	0	21	25
Learning Disabilities	41	0	11	1	73	44
Reading						
Elementary	11	0	1	0	28	30
Secondary	6	0	1	0	13	16
Physical Education	1	0	0	0	2	2
Liberal Arts Internship	1	0	0	0	5	43
Math/Science Internship	0	0	0	0	4	98
Undeclared	34	3	5	0	92	354
Workshop or Non-Degree	60	3	2	2	178	750

[a]These categories are those defined by the U. S. Department of Health, Education, and Welfare. Data are from voluntary questionnaires used by the Registrar; data were not collected before 1972.

Table 4

Average Entry Ages of Students

in College of Education Graduate Porgrams

Program	Mean Entry Age (years)	N
Administration		
Elementary	31.8	243
Secondary	30.9	412
Business Education	31.3	101
Higher Education	30.3	134
School Counselor	29.6	510
Supervision	32.0	53
Curriculum & Instruction		
Elementary	30.4	768
Secondary	29.8	372
Emerging Adolescents	32.2	59
Learning Disabilities	32.1	170
Reading		
Elementary	29.7	70
Secondary	29.7	36
Physical Education	32.8	5
Liberal Arts Internship	24.6	48
Math/Science Internship	26.3	102
Undeclared	34.2	488
Workshop or Non-Degree	37.4	995

Table 5

Average Performance Predictor Values

for Students in M. Ed. Programs

Program	MAT	N	GRE Verbal	N	GRE Math	N	Undergrad. GPA	N
Administration								
Elementary	40.4	99	419	87	404	87	2.54	223
Secondary	41.1	178	400	119	422	119	2.56	388
Business Education	35.6	53	374	14	398	14	2.63	93
Higher Education	48.0	72	494	25	455	25	2.76	123
School Counselor	43.4	270	440	100	422	100	2.69	471
Supervision	43.7	34	544	8	506	8	2.84	48
Curriculum & Instruction								
Elementary	43.3	277	419	173	406	173	2.75	702
Secondary	42.9	191	490	72	489	72	2.73	338
Emerging Adolescents	43.9	53	---	--	---	--	2.71	58
Learning Disabilities	46.3	125	480	14	502	14	2.92	155
Reading								
Elementary	44.6	52	428	6	393	6	2.76	68
Secondary	49.9	18	497	9	420	9	2.80	34
Physical Education	---	--	---	--	---	--	2.54	4
Liberal Arts Internship	---	--	552	7	437	7	2.77	45
Math/Science Internship	---	--	573	11	620	11	2.73	92
Undeclared	43.1	35	411	10	410	9	2.73	153
Workshop or Non-Degree	38.6	31	---	--	---	--	2.78	396
All Programs	43.0	1492	436	662	429	661	2.71	3391

Table 6

Admissions, Admissions to Degree Candidacy, Degrees Granted, and Program Length by Program

Program	Admissions before 1975[a]	Degree Candidates	Degrees Granted	Median Length (in quarters)
Administration				
Elementary	224	154	98	12
Secondary	377	246	140	11
Business Education	82	33	14	9
Higher Education	122	77	38	9.5
School Counselor	446	224	84	11
Supervision	43	29	7	10
Curriculum & Instruction				
Elementary	697	309	195	12
Secondary	335	174	77	10
Emerging Adolescents	41	33	11	10
Learning Disabilities	107	63	1	15
Reading				
Elementary	56	38	11	12
Secondary	25	18	3	11
Physical Education	3	n.a.	n.a.	n.a.
Liberal Arts Internship	48	32	8	17
Math/Science Internship	102	51	1	13
Undeclared	420	80	32	12
Workshop or Non-Degree	732	84	3	7

[a]This date is used to exclude those who would not normally have had time to complete the 12 credits required for degree candidacy.

Table 7

Average Credits Earned and

Progress Rate by Program

Program	Average Credits Earned	Average Progress Rate[a]
Administration		
Elementary	29.0	2.75
Secondary	28.0	2.91
Business Education	16.7	1.91
Higher Education	25.3	3.05
School Counselor	19.7	2.15
Supervision	18.9	2.70
Curriculum & Instruction		
Elementary	21.4	2.10
Secondary	21.5	2.32
Emerging Adolescents	24.5	3.75
Learning Disabilities	11.0	2.32
Reading		
Elementary	20.5	2.30
Secondary	17.4	2.50
Physical Education	n.a.	n.a.
Liberal Arts Internship	27.2	1.36
Math/Science Internship	19.0	0.84
Undeclared	9.9	1.13
Workshop or Non-Degree	6.2	0.75
All Programs	17.3	1.86

[a]An individual's progress rate is the number of credits earned divided by the number of quarters elapsed between his admission and the end of Fall Quarter, 1975, when data were compiled for this study.

Table 8

Estimated Non-Completion Rates

by Enrollment Term and Program

Program	Number Admitted	Non-Completion Rate 2 Year[a]	3 Year[b]	4 Year[b]
Administration				
Elementary	243	52.9%	55.6%	48.6%
Secondary	412	58.7%	58.7%	53.2%
Business Education	101	80%	81%	75%
Higher Education	134	60%	66%	58%
School Counselor	510	77.4%	76.7%	69.4%
Supervision	53	72%	79%	72%
Curriculum & Instruction				
Elementary	768	68.5%	71.2%	66.3%
Secondary	372	72.9%	74.5%	67.7%
Emerging Adolescents	59	58%	51%	37%
Learning Disabilities[c]	170	96%	91%	60%
Reading				
Elementary	70	77%	80%	69%
Secondary	36	81%	78%	67%
Physical Education	5	n.a.	n.a.	n.a.
Liberal Arts Internship	48	----	----	83%[d]
Math/Science Internship	101	----	----	99%[d]
Undeclared	488	89.3%	91.0%	87.7%
Workshop or Non-Degree	995	99.5%	99.4%	98.0%

[a]Actual non-completion rate for students enrolled for two years by December, 1975.

[b]Rates estimated from students' progress rates. A three year program requires a progress rate of at least 4.0 credits per quarter; a four year program requires a rate of at least 3.0.

[c]Rates for this group are misleading. Most students were admitted to other programs and changed to LD after it was approved.

[d]Actual four year non-completion rate.

Table 9

Students' Grade Averages

by Program

Program	Mean Grade Average[a]	Standard Deviation	N
Administration			
Elementary	3.48	0.36	213
Secondary	3.42	0.32	357
Business Education	3.58	0.28	70
Higher Education	3.44	0.45	114
School Counselor	3.48	0.35	381
Supervision	3.54	0.32	41
Curriculum & Instruction			
Elementary	3.54	0.39	577
Secondary	3.52	0.35	292
Emerging Adolescents	3.49	0.39	49
Learning Disabilities	3.57	0.41	125
Reading			
Elementary	3.61	0.27	52
Secondary	3.53	0.42	31
Physical Education	n.a.	n.a.	--
Liberal Arts Internship	3.14	0.61	47
Math/Science Internship	3.15	0.74	94
Undeclared	3.47	0.52	242
Workshop or Non-Degree	3.55	0.46	383

[a]Data are included here only for those students who had completed more than four graduate credits. Only 3,070 of the students admitted to graduate study have completed this much work.

Table 10

Discontinued Students by Program and Reason

Program	Reason for Discontinuance				
	Defaulted Admission		Candidacy Denied		Dismissed
	GPA<3.0	GPA≥3.0	GPA<3.0	GPA≥3.0	
Administration					
Elementary	0	2	2	9	0
Secondary	1	6	6	20	2
Business Eduation	0	4	0	9	0
Higher Education	2	3	0	3	1
School Counselor	5	19	5	34	4
Supervision	1	4	0	1	0
Curriculum & Instruction					
Elementary	2	35	2	39	5
Secondary	1	18	2	29	2
Emerging Adolescents	0	3	0	3	0
Learning Disabilities	5	12	2	12	2
Reading					
Elementary	1	1	0	3	0
Secondary	4	0	0	3	0
Physical Education	0	2	n.a.	n.a.	n.a.
Liberal Arts Internship	0	0	0	0	0
Math/Science Internship	0	0	0	1	1
Undeclared	28	115	2	18	3
Workshop or Non-Degree	40	274	2	25	7
Totals	86	502	23	209	27

Table 11

Correlations of Graduate GPA

and Four Predictors[a]

	Graduate GPA	MAT[b]	Undergrad GPA	Prev. Grad. Degree[c]	Entry Age
Graduate GPA	1.000				
MAT	0.317	1.000			
Undergrad GPA	0.314	0.326	1.000		
Prev. Grad. Degree	0.050	0.107	0.053	1.000	
Entry Age	-0.025	-0.032	-0.103	0.016	1.000

[a]The sample consists of 892 students who had completed at least 12 credits (to make the GPA valid) and on whom MAT scores and undergraduate GPA's were available.

[b]Miller Analogies Test

[c]This is a dummy variable, coded as 0 if the student did not already hold a graduate degree and coded 1 if he did hold either a master's or doctoral degree. Only 1.5% of the students in this sample held previous graduate degrees.

Table 12

Regression of Predictors[a]

on Graduate GPA

Variable Entered	Coefficient	Multiple R	Multiple R^2	F Ratio
MAT	0.0043	0.317	0.101	54.000
Undergrad GPA	0.1760	0.387	0.150	51.881
(Constant)	(2.8672)			

[a] Only the MAT and undergraduate GPA's contributed significantly to the prediction of graduate GPA's. Holding of a graduate degree and entry age did not raise measurably the amount of graduate GPA variance accounted for.

Table 13

Regressions on GPA of MAT

and Three Predictors by Program

Program	Multiple R	Multiple R^2	N	Best Predictor
Administration (both)	0.175	0.031	238	MAT
Business Education	0.434	0.189	41	MAT
Higher Education	0.335	0.112	65	Enrollment age
School Counselor	0.119	0.014	226	MAT
Supervision	0.334	0.112	28	Undergraduate GPA
Curriculum & Instruction				
Elementary	0.212	0.045	224	Undergraduate GPA
Secondary	0.164	0.027	166	Undergraduate GPA
Emerging Adolescents	0.330	0.109	41	MAT
Learning Disabilities	0.202	0.041	86	Undergraduate GPA
Reading (both)	0.460	0.212	55	MAT

Table 14

Regressions on GPA of GRE

and Three Predictors by Program

Program	Multiple R	Multiple R^2	N	Best Predictor
Administration (both)	0.297	0.088	202	GRE Verbal
Business Education	0.614	0.377	13	GRE Verbal
Higher Education	0.209	0.044	24	Enrollment age
School Counselor	0.295	0.087	94	GRE Math
Supervision	0.578	0.334	8	Undergraduate GPA
Curriculum & Instruction				
Elementary	0.102	0.010	169	GRE Verbal
Secondary	0.590	0.348	67	Undergraduate GPA
Emerging Adolescents[a]	-----	-----	---	--------
Learning Disabilities	0.777	0.603	10	GRE Verbal
Reading (both)	0.826	0.682	12	GRE Verbal

[a]Insufficient number of cases to compute a regression

Table 15

Classification of Students' Success

by Discriminant Function[a]

Actual Group	No. of Cases	Predicted Group	
		Unsuccessful	Successful
Unsuccessful	1021	651	370
Successful	418	212	206

[a]Success was arbitrarily defined as either completing the degree or averaging completion of at least four credits per quarter. The discriminant function was generated using the method of maximizing Rao's V with the following variables as predictors of success: MAT, undergraduate GPA, sex, and entry age. Only MAT scores did not enter the discriminant function. However, the resulting function classifies group membership correctly only 59.6% of the time, just under ten per cent better than the chance probability.

Table 16

Discriminant Function Predictions

of Students' Success by Program

Program	Correct Predictions	P[a]	N	Best Predictor
Administration (both)	54.2%	0.22	238	MAT
Business Education[b]	----	----	41	----
Higher Education	58.5%	0.11	65	Undergraduate GPA
School Counselor	59.3%	0.03	226	Sex
Supervision	64.3%	0.95	28	Sex
Curriculum & Instruction				
Elementary	66.5%	0.001	224	Undergraduate GPA
Secondary	51.2%	0.66	166	Enrollment age
Emerging Adolescents	63.4%	0.97	41	Undergraduate GPA[c]
Learning Disabilities[b]	----	----	86	----
Reading (both)[b]	----	----	55	----

[a]Probability of achieving a correct prediction rate equal to or greater than that of the discriminant function by chance

[b]Differences between groups on predictors were insufficient to calculate a discriminant function.

[c]Negative predictor

Figure Captions

Figure 1. Admissions to graduate study in education by sex and year.

Figure 2. Admissions to administration and school counselor programs by quarter and year.

Figure 3. Admissions to curriculum and instruction and to learning disabilities programs by quarter and year.

Figure 4. Admissions to higher education and supervision programs by year.

Figure 5. Admissions to elementary reading, emerging adolescents, and liberal arts internship programs by year.

Figure 6. Admissions to business education, secondary reading, and math/science internship programs by year.

Figure 7. Admissions of undeclared and workshop or non-degree students by quarter and year.

Figure 8. Distribution of students' ages at enrollment.

Figure 9. Students' undergraduate grade averages.

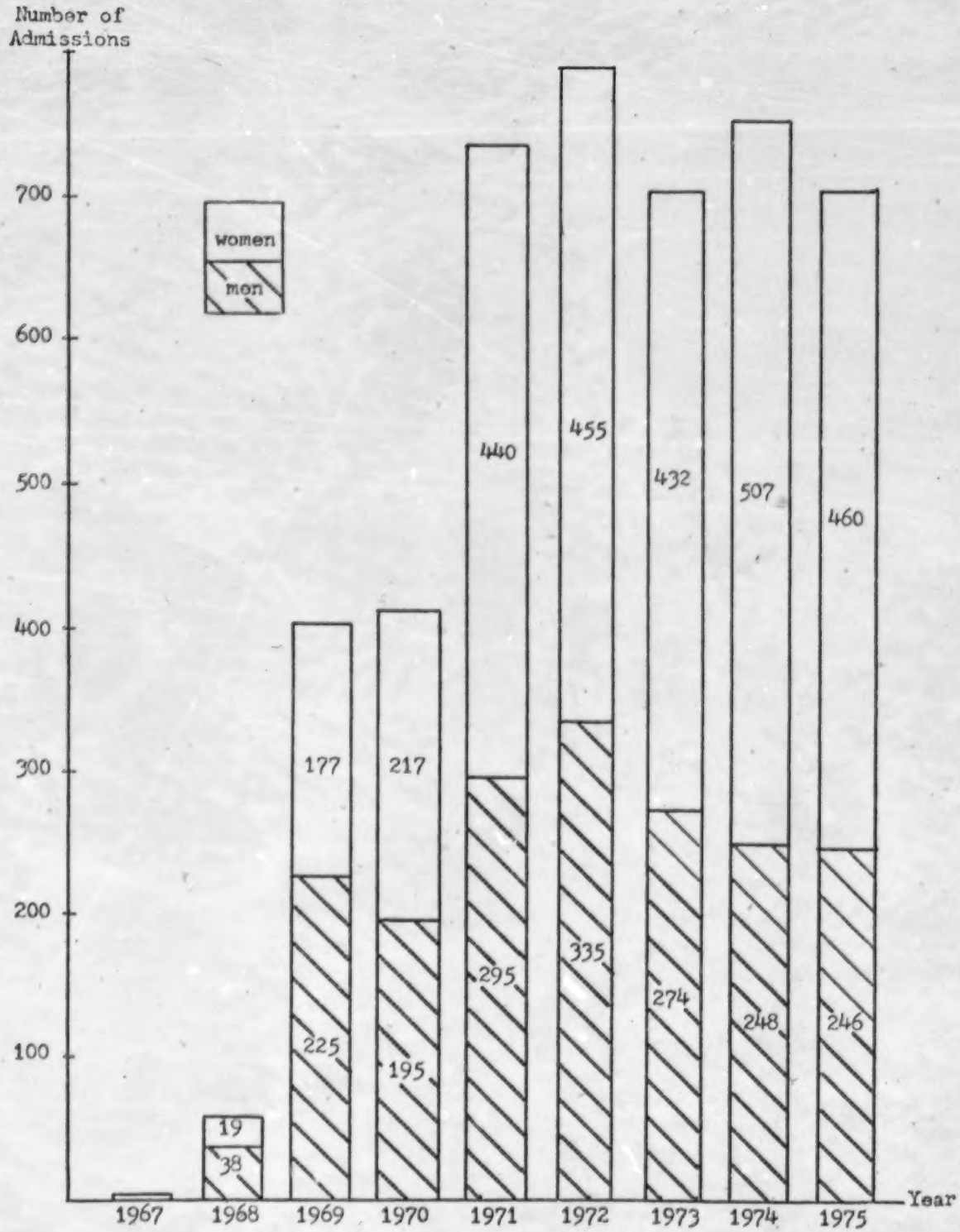
Figure 10. Distribution of students' MAT scores.

Figure 11. Distribution of students' GRE Verbal Aptitude scores.

Figure 12. Distribtuion of students' GRE Math Aptitude scores.

Figure 13. Distribution of credits earned by students.

Figure 14. Grade average distributions for all students, program graduates, and students barred from further enrollment.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300
200
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women
men
19
38
177
225
217
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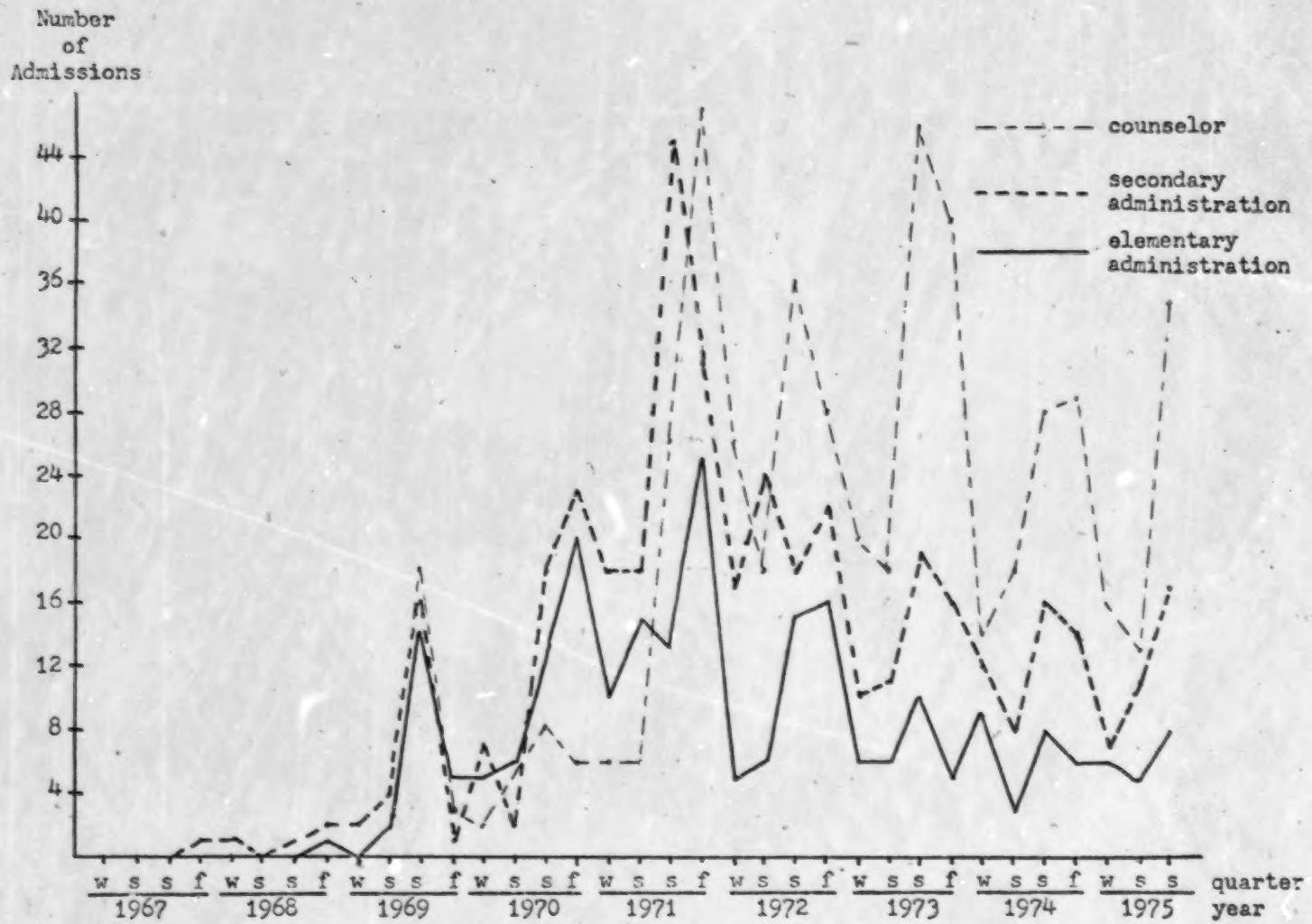
432
274
507
248
460
246
1967
1968
1969
1970
1971
1972
1973
1974
1975
Year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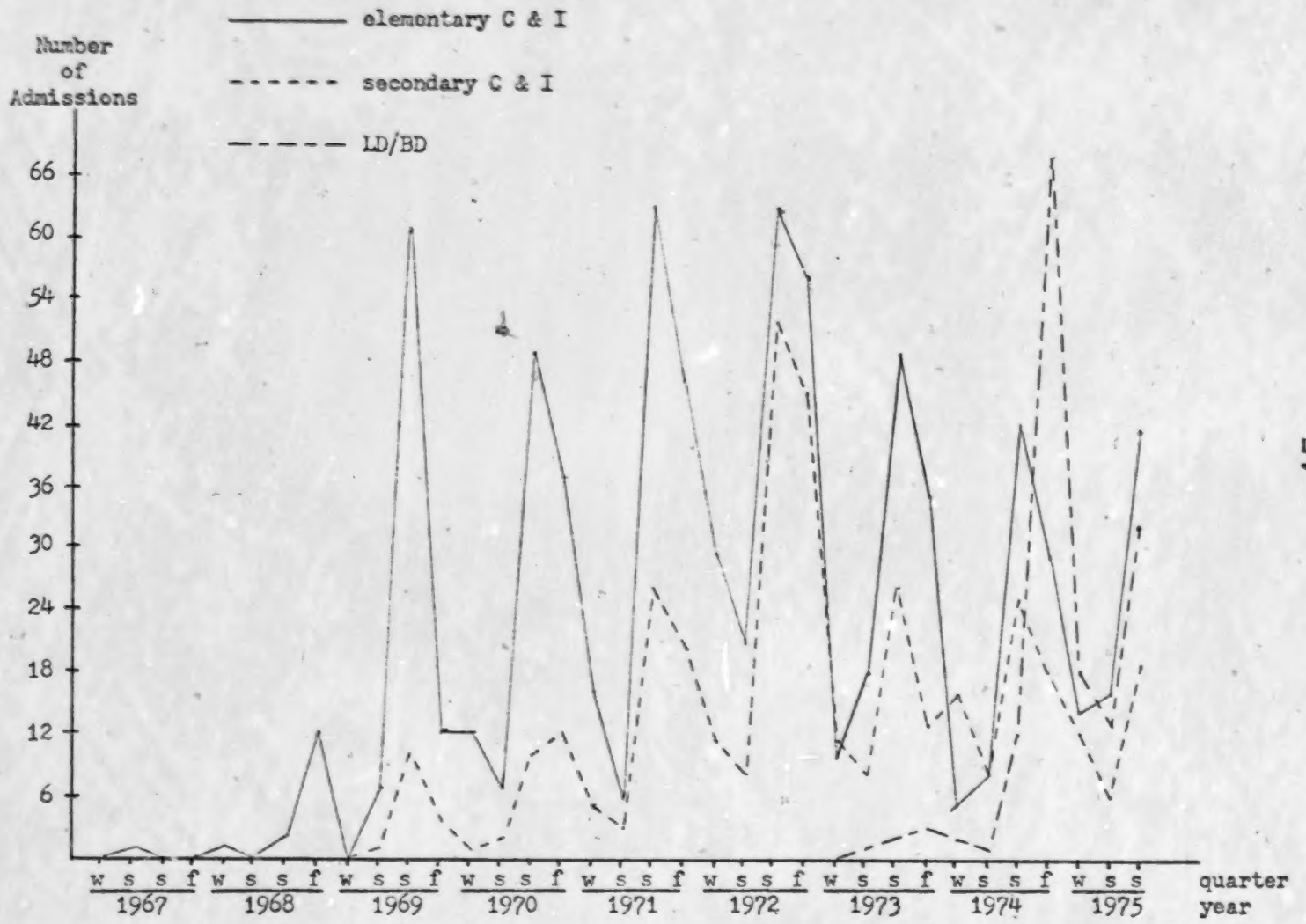
36
32
28
24
20
16
12
8
4
counselor
secondary administration
elementary administration
w s s f w s s f w s s f w s s f w s s f w s s f w s s f w s s f w s s
1967
1968
1969
1970
1971
1972
1973
1974
1975
quarter
year


elementary C & I
secondary C & I
LD/BD
Number of Admissions
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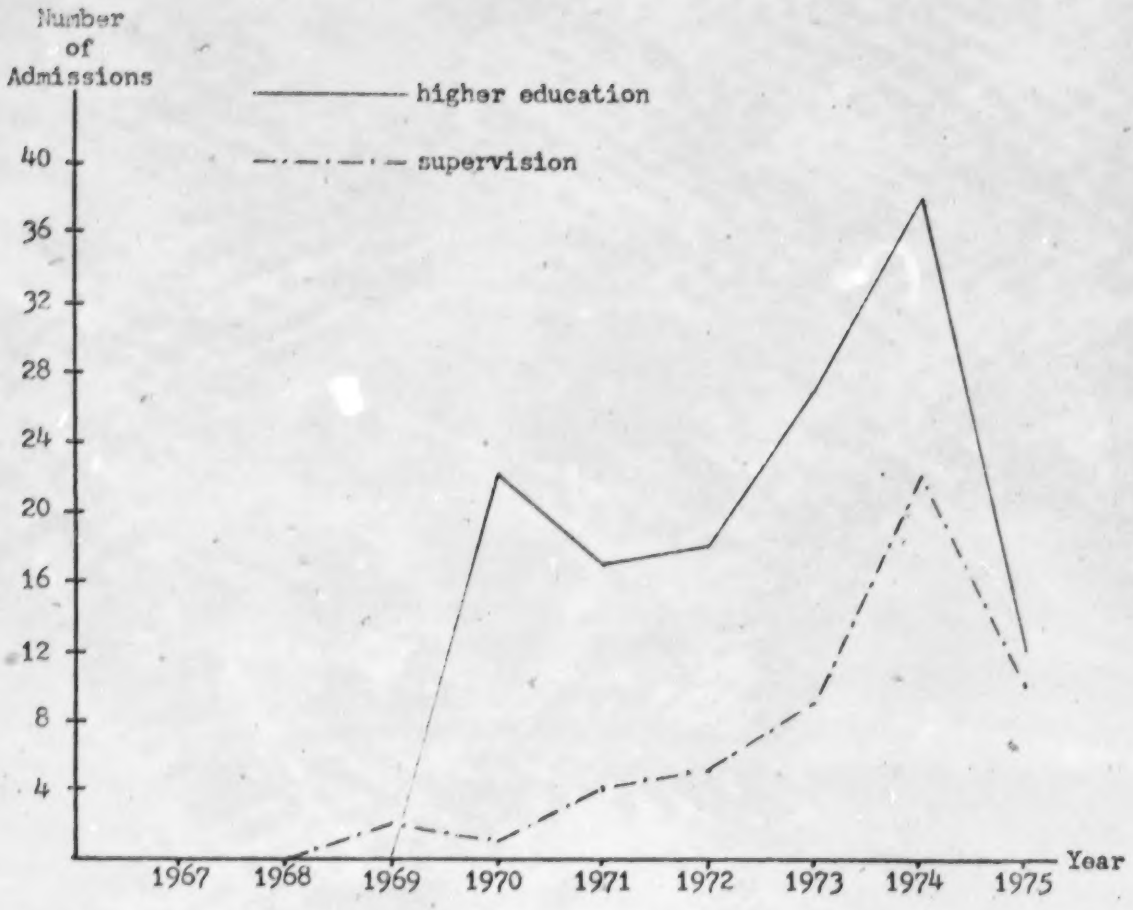
54
48
42
36
30
24
18
12
6
w s s f w s s f w s s f w s s f w s s f w s s f w s s f w s s f w s s
1967
1968
1969
1970
1971
1972
1973
1974
1975
quarter
year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supervision
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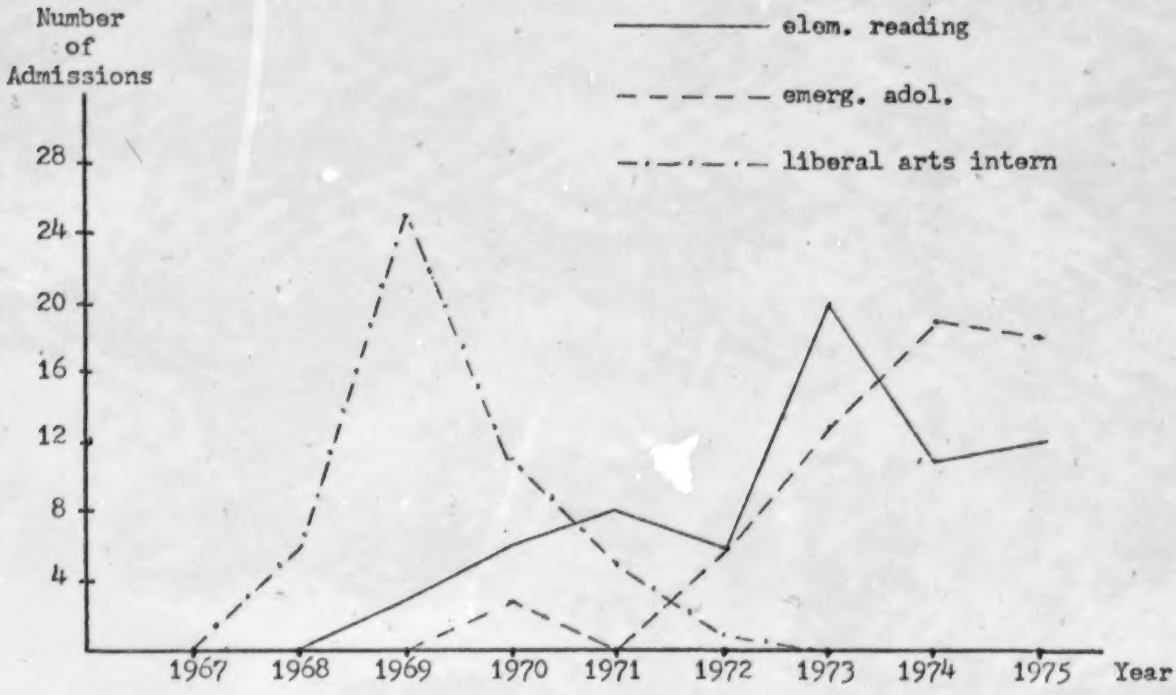
24
20
16
12
8
4
1967
1968
1969
1970
1971
1972
1973
1974
1975
Year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24
20
16
12
8
4
1967
1968
1969
1970
1971
1972
1973
1974
1975
Year
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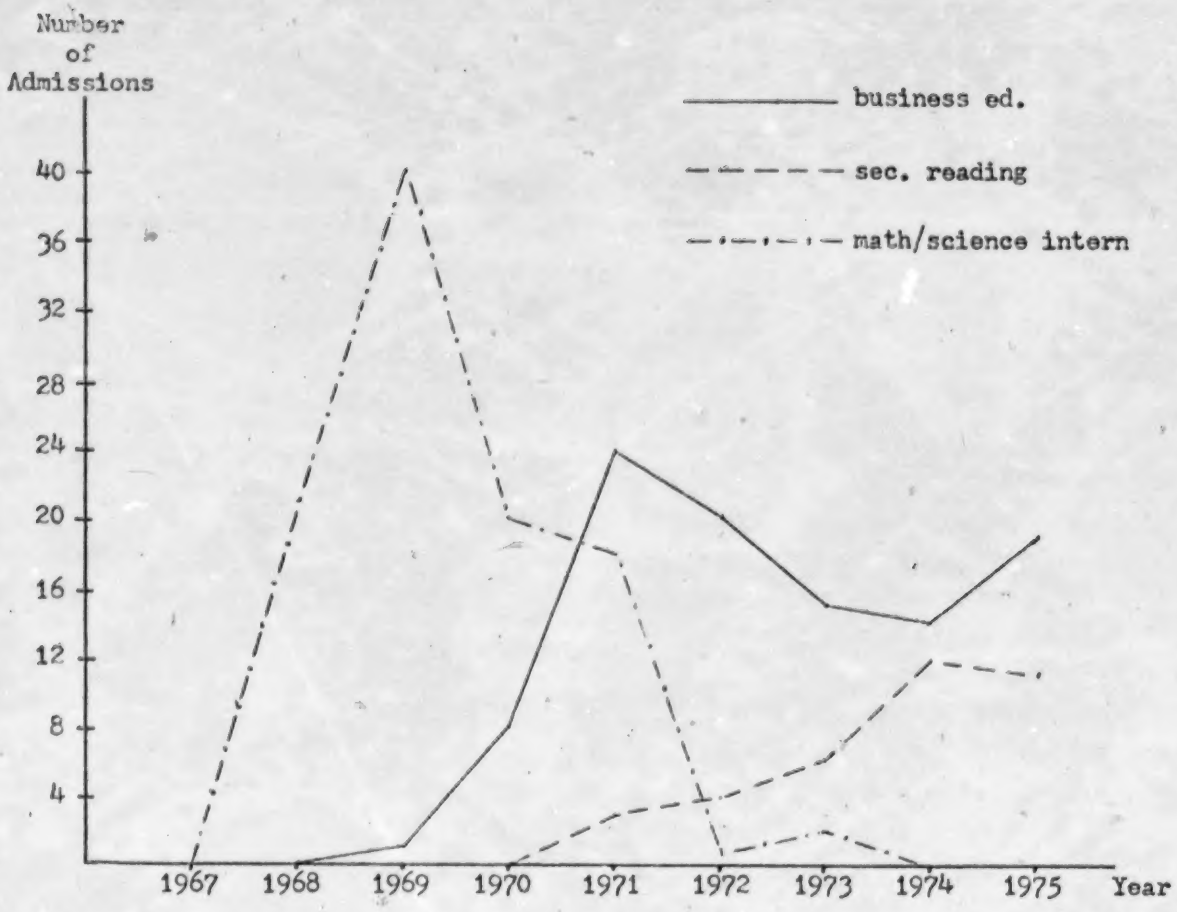
emerg. adol.
liberal arts intern


Number of Admissions
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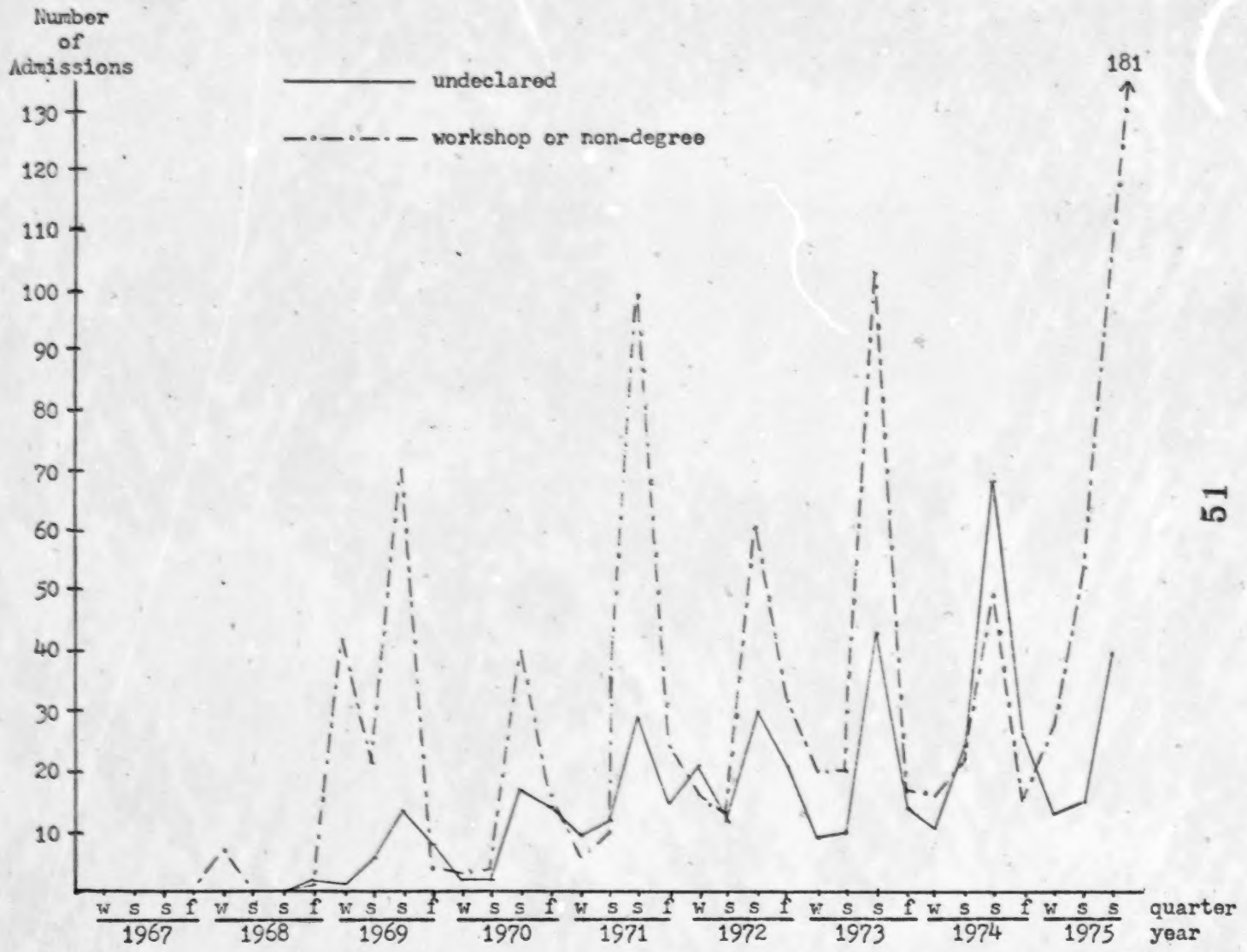
36
32
28
24
20
16
12
8
4
1967
1968
1969
1970
1971
1972
1973
1974
1975
Year
business ed.
sec. reading
math/science intern


Number of Admissions
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workshop or non-degree
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120
110
100
90
80
70
60
50
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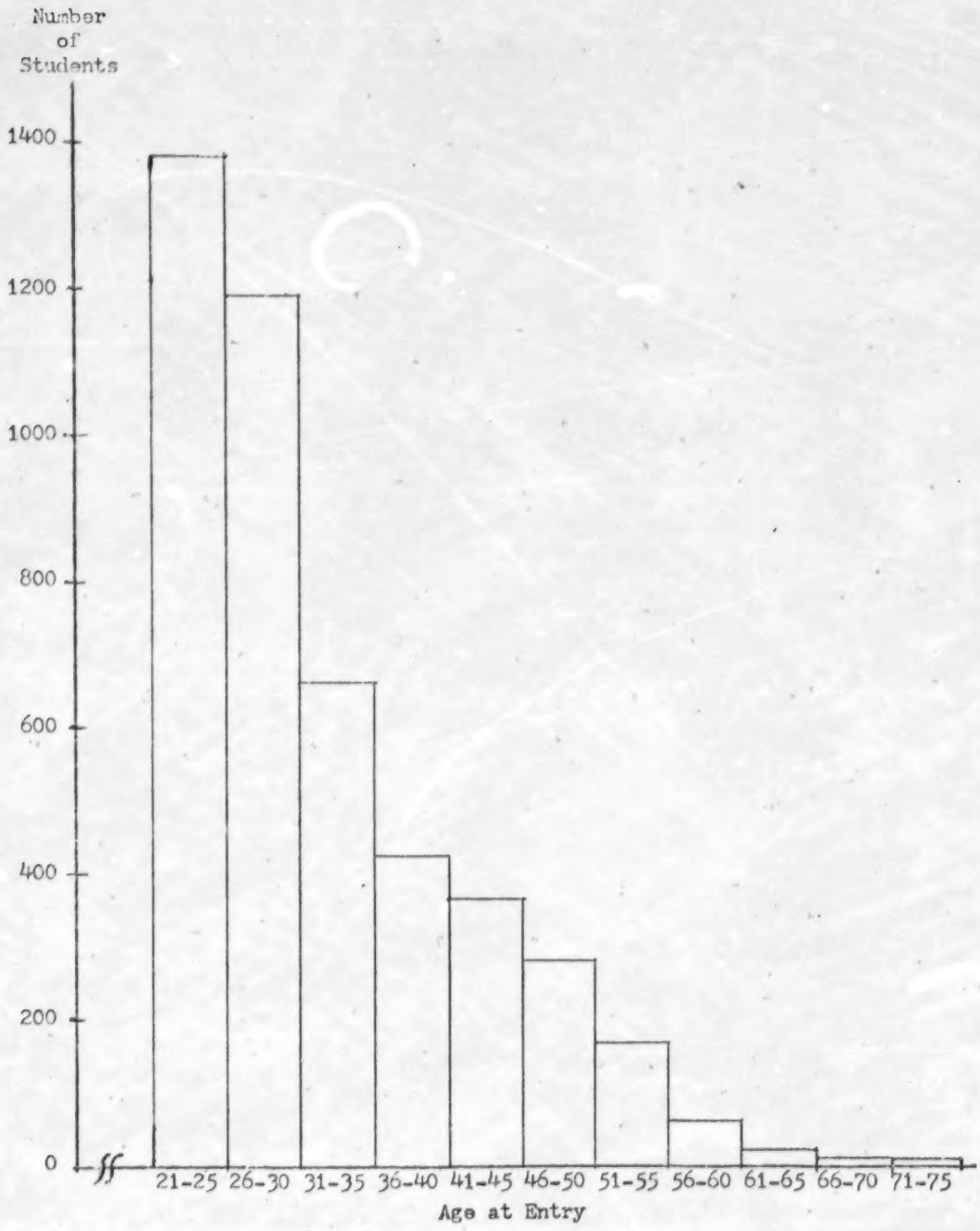
30
20
10
w s s f w s s f w s s f w s s f w s s f w s s f w s s f w s s f w s s
1967
1968
1969
1970
1971
1972
1973
1974
1975
quarter
year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1000
800
600
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200
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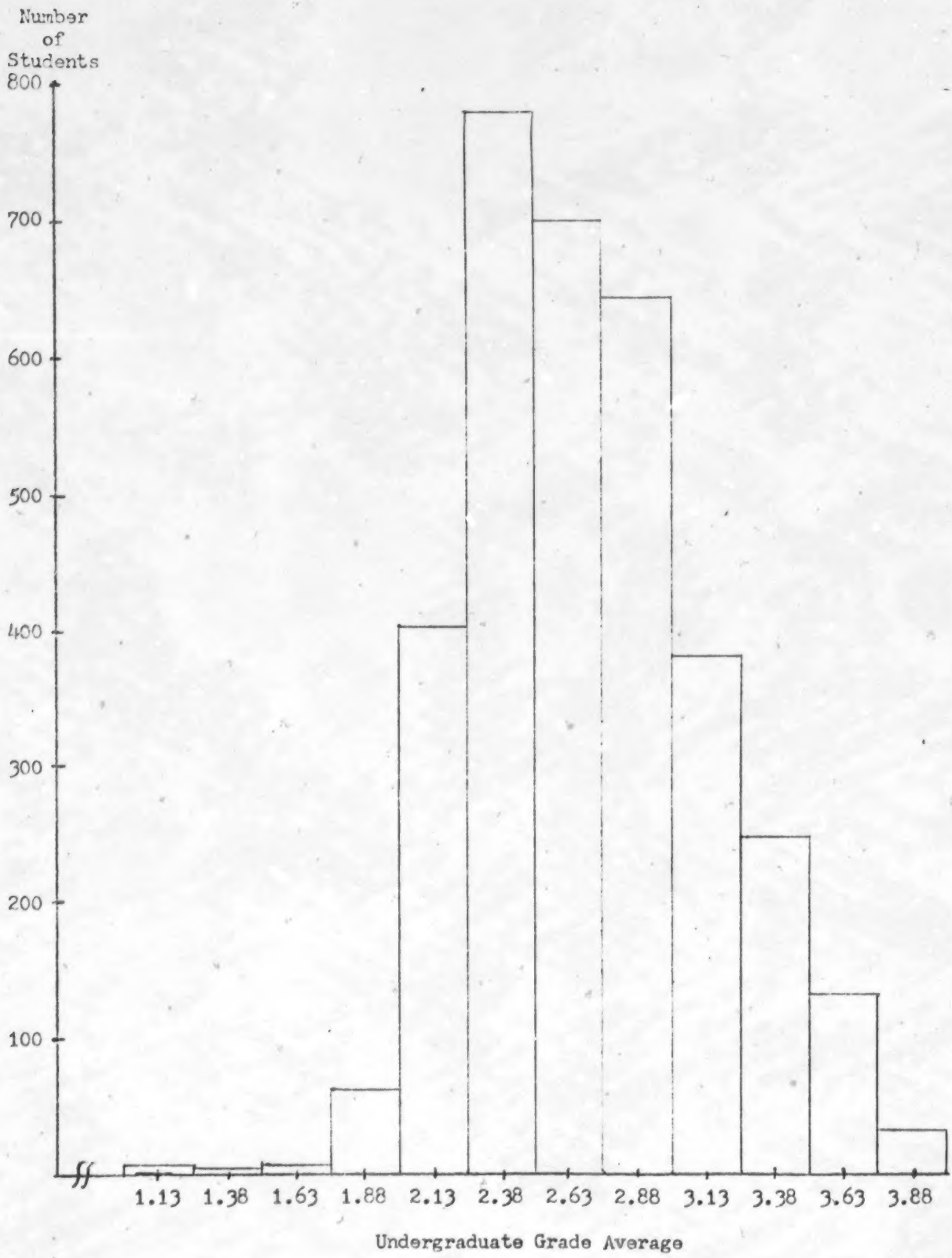
21-25
26-30
31-35
36-40
41-45
46-50
51-55
56-60
61-65
66-70
71-75
Age at Entry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400
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200
100
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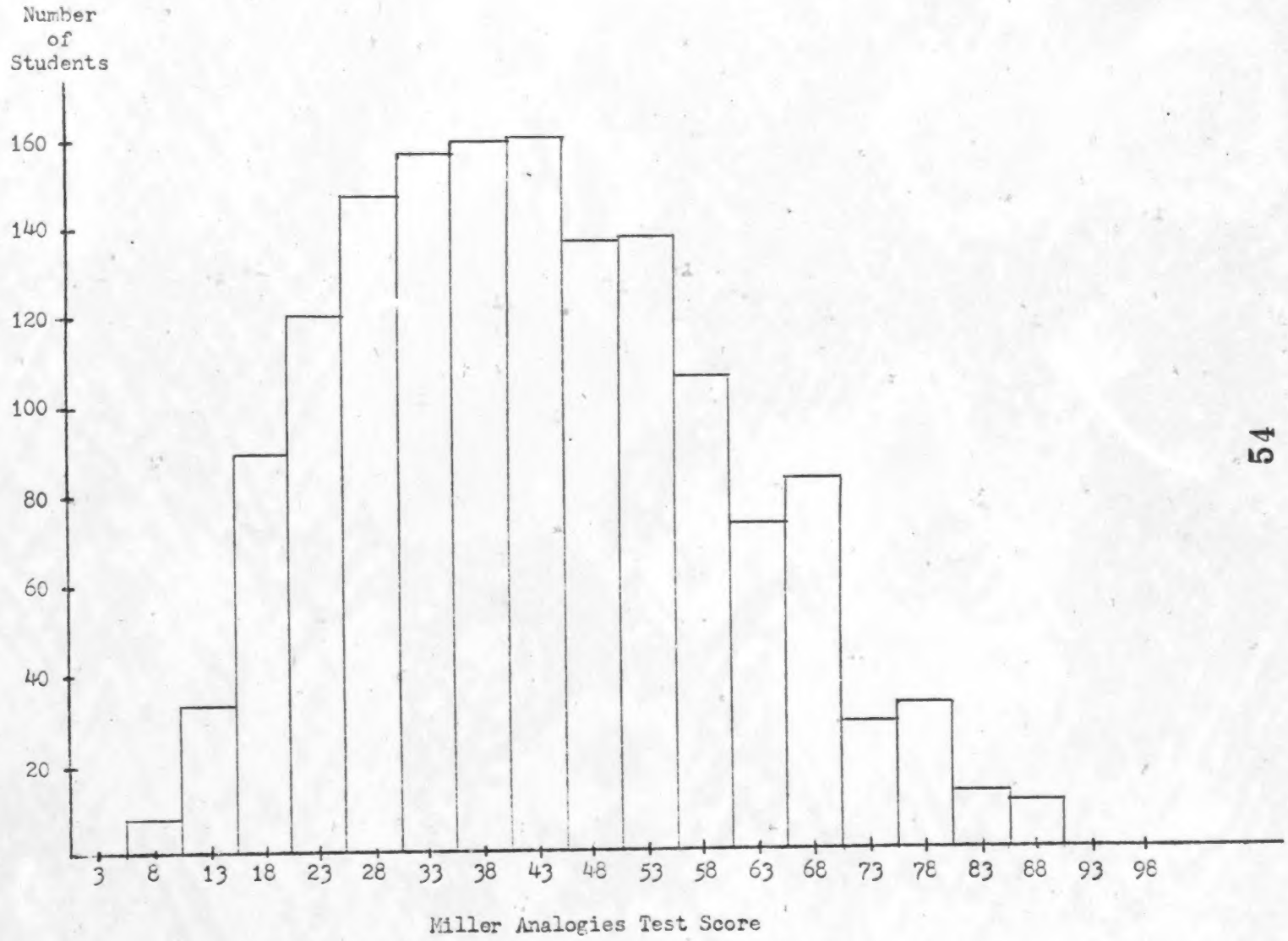
3.13
3.38
3.63
3.88
Undergraduate Grade Average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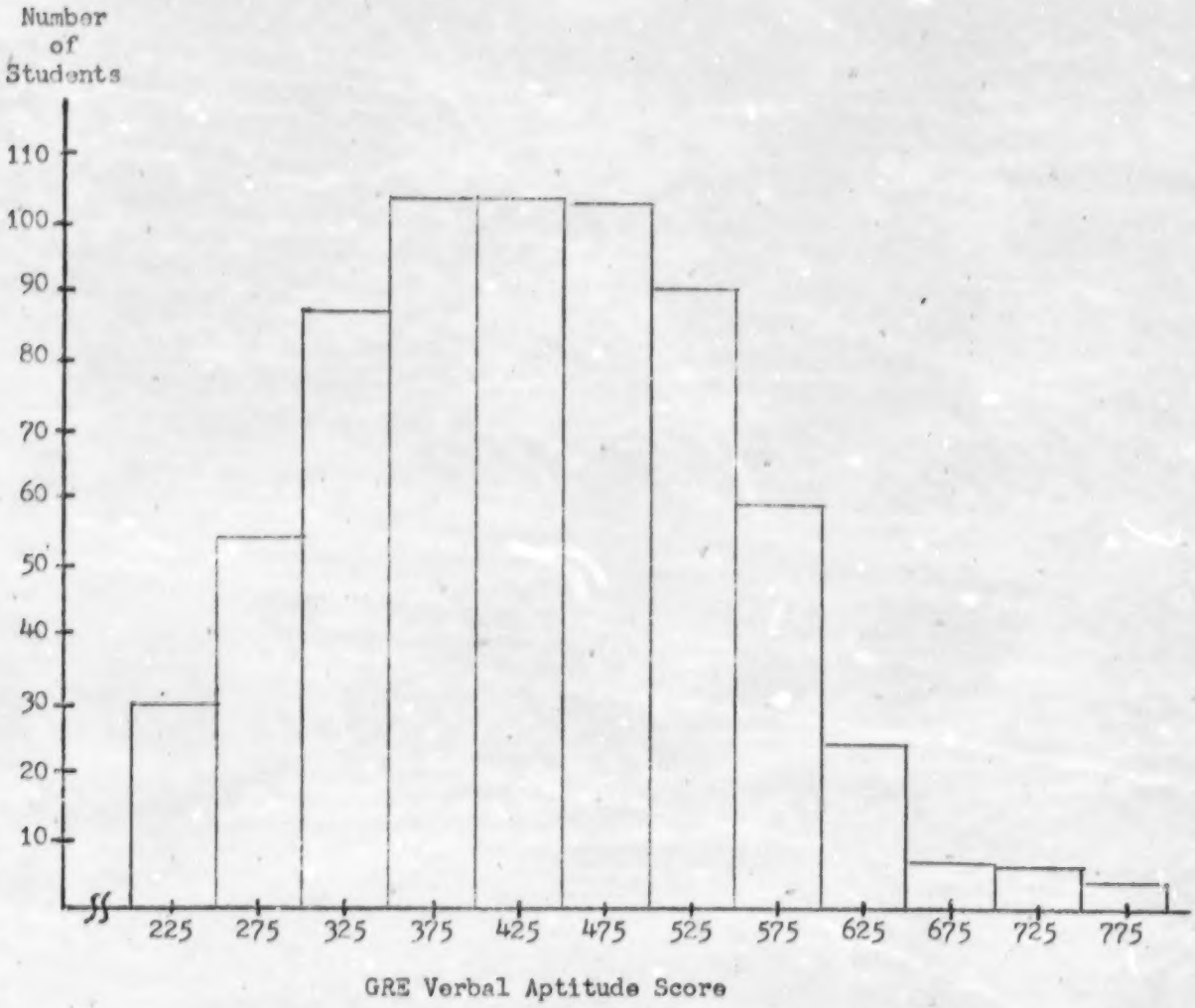
Miller Analogies Test Score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60
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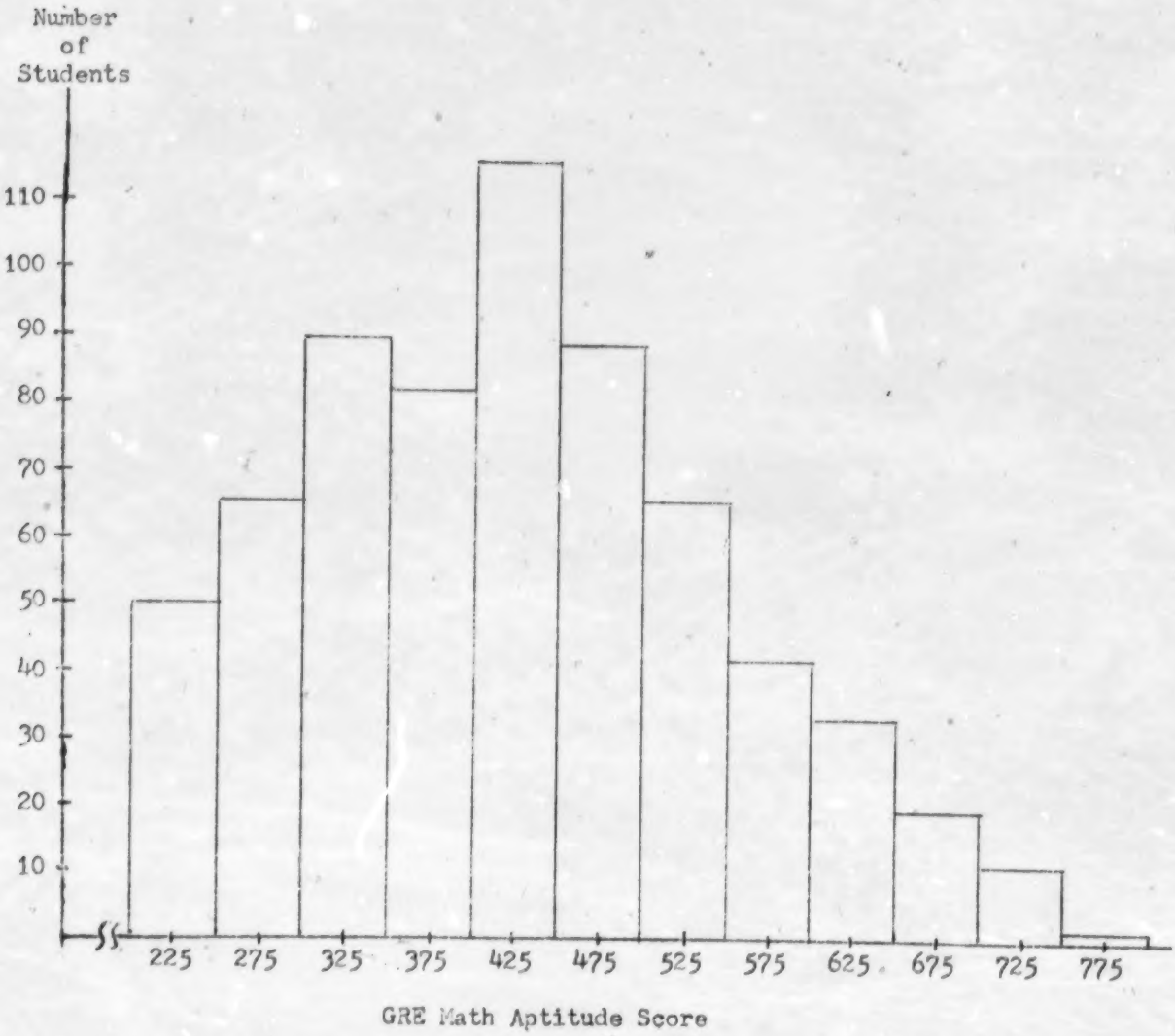
775
GRE Verbal Aptitude Score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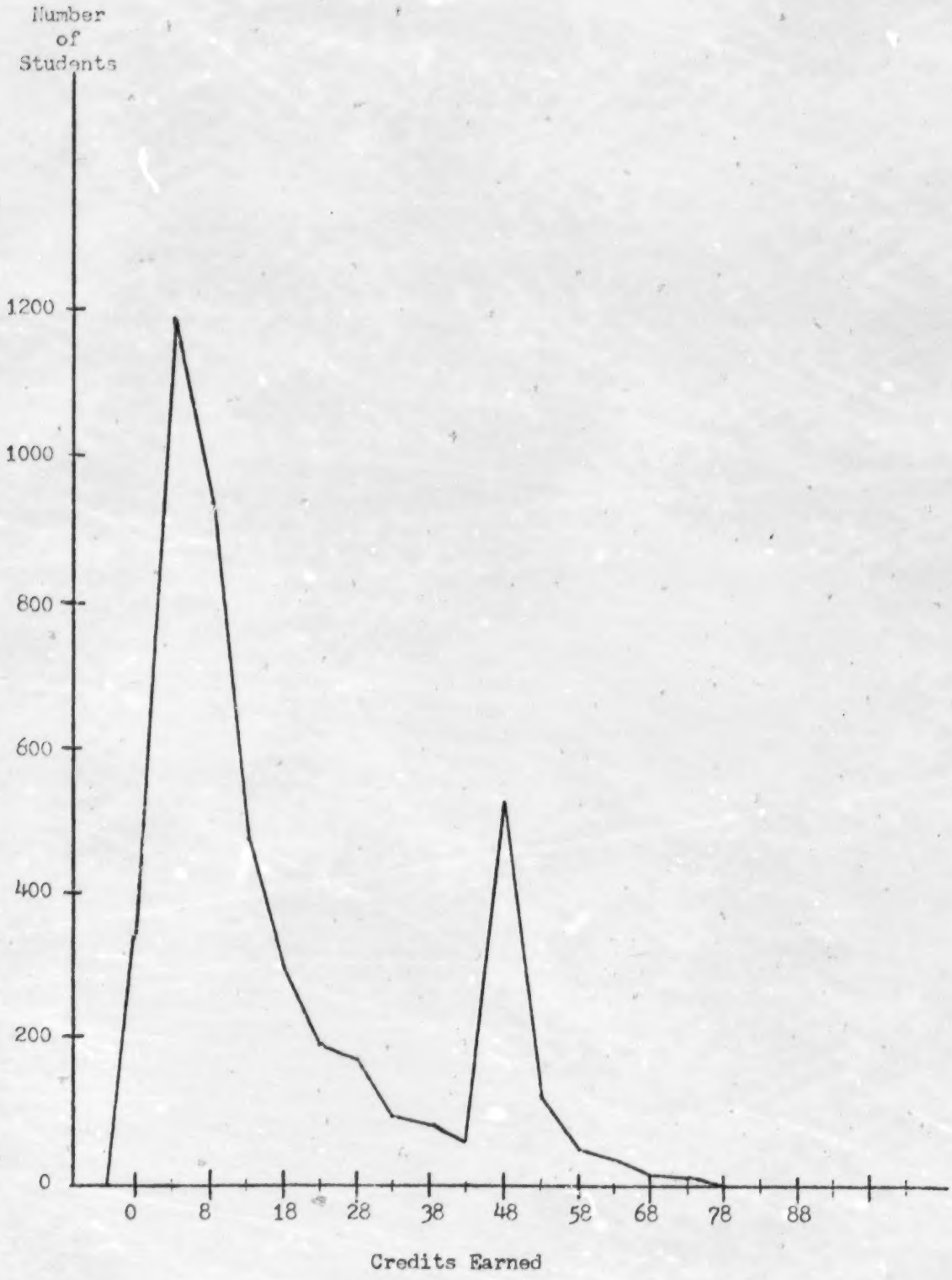
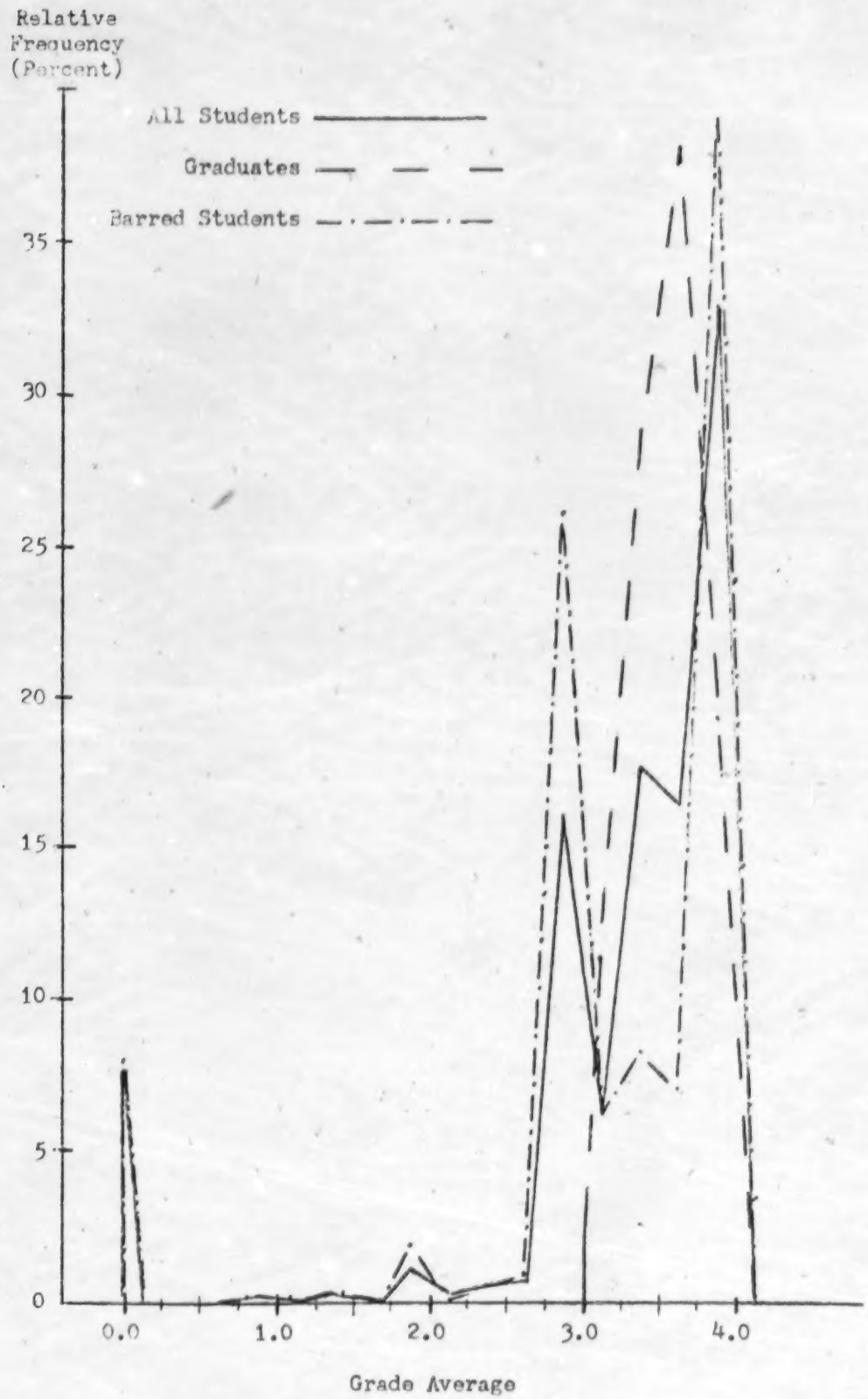
100
90
80
70
60
50
40
30
20
10
225
275
325
375
425
475
525
575
625
675
725
775
GRE Math Aptitude Score


Number of Students
1200
1000
800
600
400
200
0
0
8
18
28
38
48
58
68
78
88
Credits Earned


Relative
Frequency
(Percent)
All Students
Graduates
Barred Students
35
30
25
20
15
10
5
0
0.0
1.0
2.0
3.0
4.0
Grade Average